



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2012-0930; Directorate Identifier 2011-NM-251-AD; Amendment 39-17472; AD 2013-11-12]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Bombardier, Inc. Model BD-100-1A10 (Challenger 300) airplanes. This AD was prompted by reports of failure of a screw cap or end cap of the hydraulic system accumulator while on the ground, which resulted in loss of use of that hydraulic system and high-energy impact damage to adjacent systems and structures. This AD would require inspecting for the correct serial number of a certain hydraulic system accumulator, and replacing affected hydraulic system accumulators with new or serviceable accumulators. We are issuing this AD to prevent failure of a screw cap or end cap and loss of the related hydraulic system, which could result in damage to airplane structure and consequent reduced controllability of the airplane.

**DATES:** This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may examine the AD docket on the Internet at

<http://www.regulations.gov> or in person at the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Cesar Gomez, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7318; fax (516) 794-5531.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on September 6, 2012 (77 FR 54846). That NPRM proposed to correct an unsafe condition for the specified products. The Mandatory Continuing Airworthiness Information (MCAI) states:

Seven cases of on-ground hydraulic accumulator screw cap/end cap failure have been experienced on CL-600-2B19 aeroplanes, resulting in loss of the associated hydraulic system and high-energy impact damage to adjacent systems and structure. To date, the lowest number of flight cycles accumulated at the time of failure has been 6991.

Although there have been no failures to date on any BD-100-1A10 aeroplanes, accumulators similar to those installed on the CL-600-2B19 are installed on them. The affected part numbers (P/Ns) of the accumulators installed on BD-100-1A10 are 900095-1 (Auxiliary Hydraulic System accumulator), 08-60219-001 (Inboard Brake accumulator), and 08-60218-001 (Outboard Brake accumulator).

A detailed analysis of the calculated line of trajectory of a failed screw cap/end cap for the accumulator has been conducted, resulting in the identification of areas where systems and/or structural components could potentially be damaged. Although all of the failures to date have occurred on the ground, an in-flight failure affecting such components could potentially have an adverse effect on the controllability of the aeroplane.

This [TCCA] directive provides the initial action by mandating the replacement of the Auxiliary Hydraulic System accumulators that are not identified by the letter “E” after the serial number on the identification plate. Further corrective actions are anticipated to rectify similar safety concerns with the Inboard and Outboard Brake accumulators.

You may obtain further information by examining the MCAI in the AD docket.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

### **Request to Change Precipitating Event Language**

Bombardier asked that the language specifying that the NPRM (77 FR 54846, September 6, 2012) was prompted by “auxiliary hydraulic accumulator failure due to end cap or screw cap” be changed. Bombardier stated that there is no record of such auxiliary hydraulic accumulator failure and added that the failures occurred on accumulators

having a similar design. Bombardier asked that the word “auxiliary” be removed from the NPRM.

We agree with the commenter for the reason provided. We have removed the word “auxiliary” from the Summary section and paragraph (e) of this AD.

#### **Request for Clarification of Effective Date of AD**

Bombardier asked if the compliance time in paragraphs (g)(1) and (g)(3) of the NPRM (77 FR 54846, September 6, 2012) should refer to the date of Bombardier Service Bulletin 100-29-14, dated December 16, 2010, instead of the effective date of the AD. Bombardier stated that there is a significant difference between the release date of that service information and the effective date of the AD.

We acknowledge the commenter’s concern and provide the following clarification. We do not agree that the compliance time should correspond to the release date of Bombardier Service Bulletin 100-29-14, dated December 16, 2010. We do not intend to ground airplanes, but that could occur if the release date of this service information is used. Therefore, we must provide a compliance time to account for the time that has passed since this service information was issued.

Shortening the compliance time would mean issuing a supplemental NPRM, and we do not consider it appropriate to further delay issuance of this final rule. We determined that a compliance time following the effective date of the AD is appropriate and represents an acceptable interval in which the inspection can be performed in a timely manner within the fleet, while still maintaining an adequate level of safety. Additionally, operators are always permitted to accomplish the requirements of an AD at

a time earlier than the specified compliance time. We have made no change to the AD in this regard.

#### **Clarification of Address**

Bombardier also asked if the email address for business airplanes identified in paragraph (k)(2) of the NPRM (77 FR 54846, September 6, 2012) is accurate.

We contacted the manufacturer and verified that the email address identified in paragraph (k)(2) of the NPRM (77 FR 54846, September 6, 2012) for obtaining service information from Bombardier, Inc., is the correct email address for business airplanes.

We have made no change to the AD in this regard.

#### **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD with the change described previously. We also determined that this change will not increase the economic burden on any operator or increase the scope of the AD.

#### **Costs of Compliance**

We estimate that this AD affects 75 airplanes of U.S. registry. We estimate the following costs to comply with this AD

<b>Estimated costs</b>				
<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Inspection to determine part numbers	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$6,375

We estimate the following costs to do any necessary replacements that would be required based on the results of the inspection. We have no way of determining the number of aircraft that might need these replacements.

**On-condition costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
Hydraulic accumulator replacement	4 work-hours X \$85 per hour = \$340	\$0	\$340

**Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. “Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

**Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on

the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the NPRM (77 FR 54846, September 6, 2012), the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new AD:

**2013-11-12 Bombardier, Inc.:** Amendment 39-17472. Docket No. FAA-2012-0930; Directorate Identifier 2011-NM-251-AD.

#### **(a) Effective Date**

This airworthiness directive (AD) becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Bombardier, Inc. Model BD-100-1A10 (Challenger 300) airplanes, certificated in any category, having serial numbers 20003 through 20335 inclusive.

#### **(d) Subject**

Air Transport Association (ATA) of America Code 29, Hydraulic Power.

#### **(e) Reason**

This AD was prompted by reports of failure of a screw-cap or end cap of the hydraulic system accumulator while on the ground, which resulted in loss of use of that



hydraulic system and high-energy impact damage to adjacent systems and structures. We are issuing this AD to prevent failure of a screw cap or end cap and loss of the related hydraulic system, which could result in damage to airplane structure and consequent reduced controllability of the airplane.

**(f) Compliance**

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

**(g) Inspection**

At the applicable time specified in paragraph (g)(1), (g)(2), or (g)(3) of this AD: Inspect the identification plate on the hydraulic system accumulator having part number (P/N) 900095-1 to determine if an “E” is part of the suffix of the serial number stamped on the identification plate, as listed in paragraph 2.B. of the Accomplishment Instructions of Bombardier Service Bulletin 100-29-14, dated December 16, 2010. A review of airplane maintenance records is acceptable in lieu of this inspection if the suffix of the serial number can be conclusively determined from that review.

(1) For an accumulator that has accumulated more than 3,150 total flight cycles as of the effective date of this AD, inspect that accumulator within 350 flight cycles after the effective date of this AD.

(2) For an accumulator that has accumulated 3,150 or fewer total flight cycles as of the effective date of this AD, inspect that accumulator before it has accumulated 3,500 total flight cycles.

(3) For an accumulator on which it is not possible to determine the total flight cycles accumulated as of the effective date of this AD, inspect that accumulator within 350 flight cycles after the effective date of this AD.

**(h) Replacement**

If, during the inspection required by paragraph (g) of this AD, any accumulator having P/N 900095-1 is found on which the letter “E” is not part of the suffix of the serial number on the identification plate: Before further flight, replace the accumulator with a new or serviceable accumulator, in accordance with paragraph 2.C. of the Accomplishment Instructions of Bombardier Service Bulletin 100-29-14, dated December 16, 2010.

**(i) Parts Installation Prohibition**

As of the effective date of this AD, no person may install on any airplane a hydraulic system accumulator having P/N 900095-1, on which the letter “E” is not part of the suffix of the serial number on the identification plate.

**(j) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the ACO, send it to the Program Manager, Continuing Operational Safety, FAA, New York

ACO, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone (516) 228-7300; fax (516) 794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

**(k) Related Information**

Refer to MCAI Canadian Airworthiness Directive CF-2011-41, dated October 31, 2011; and Bombardier Service Bulletin 100-29-14, dated December 16, 2010; for related information.

**(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Bombardier Service Bulletin 100-29-14, dated December 16, 2010.

(ii) Reserved.

(3) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA.

(4) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on May 22, 2013.

Jeffrey E. Duven,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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